

Making toilets more affordable for the poor through microfinance

Lessons learned from introducing microfinance loans for sanitation in rural Cambodia

August 2014

INTRODUCTION

From 2000 to 2012, access to sanitation in Cambodia's rural areas increased by only 1% per year (JMP, 2014). By 2012, 75% of rural Cambodians lacked access to improved sanitation, and 66% practiced open defecation. Though open defecation rates are highest among the poorest rural Cambodians at 86%, they are still quite high even among the richest at 32% (CSES, 2011). Lack of access to sanitation imposes significant economic and social costs on rural Cambodians, from higher child mortality due to diarrhea, other fecal-borne diseases, to stunted growth of children.

The World Bank's Water and Sanitation Program (WSP) is supporting the Government of Cambodia in its efforts to increase access to sanitation among rural households. Achieving this goal requires effective demand generation for sanitation, highly-engaged local governments that work closely with the private sector to encourage service delivery, and a well-functioning value chain that leverages the capabilities of domestic sanitation businesses as

well as providers of sanitation financing products and services.

In Cambodia, extensive previous experience with sanitation marketing approaches illustrates there is strong household demand for sanitation and the domestic sanitation market is capable of meeting it. At the same time, challenges remain in reaching low-income households that do not have the cash to meet upfront payments to purchase sanitation products.

Over a 13-month period, WSP worked with a number of partners, including the international non-profit Program for Appropriate Technology in Health (PATH) and International Development Enterprises (IDE), to pilot a sanitation financing program to address the challenge of reaching low-income households with improved sanitation solutions. This learning note presents the lessons from this pilot to promote scale-up in Cambodia and to inform similar efforts in other countries. This pilot is also part of a broader sanitation marketing initiative co-funded by the Bill and Melinda Gates Foundation and Stone Family Foundation.

Key findings

- **There is demand for latrines even among poor households;** a sanitation loan program offered by socially-oriented microfinance institutions (MFIs) helps to increase uptake of sanitation among the poor. **A small loan size and a poor-inclusive application process are essential to success.**
- MFIs can increase the number of loans offered, reduce loan processing time, and increase a household's likelihood of committing to a sanitation loan by **dedicating loan officers to the sanitation portfolio.**
- **Allowing borrowers to repay loans close to where they live increases the likelihood of interest in this loan product.** Borrowers will hesitate if they have to travel long distances, especially for small loans.
- A close partnership between an MFI and a latrine business that has the **motivation and capability to produce and deliver on time** is needed to maximize commitments from customers and avoid losing latrine orders.
- A poor inclusive sanitation loan program is **financially viable and sustainable** given the right support, and if loans are managed carefully.

PROBLEM STATEMENT

While there is strong demand for improved latrines in Cambodia amongst the rural poor, this demand goes unmet largely because these consumers cannot afford to pay upfront for a latrine that meets their preferences. Research showed that 77% of Cambodians were considering constructing a latrine, yet ownership remains low, especially in rural areas.¹ Ninety-five percent of households who do not own a latrine reported they were too expensive or they did not have enough money to purchase a latrine upfront. Having access to microloans could help alleviate this challenge; however, microfinance institutions (MFIs) often perceive non-productive loans as high-risk, particularly when the borrower is not a trusted existing business client. Yet, if a household with an income at the national poverty level (US\$900 per household per year) could save just 5% of its income, it would have enough money in one year to buy a basic substructure of a latrine that is available in the market at the price of around US\$40-45. In other words, if paying for the cost of a latrine can be spread out over a period of time, getting a latrine is becoming more affordable for more households, possibly including the cash-strapped poor for whom large upfront payments are problematic. It is important to note that the latrine product at the price given above only refers to the substructure part of the latrine (installation not included). Households then choose to build a shelter at their own additional cost, pace and according to their preference, which could be made of local organic materials, bricks or other materials.

ACTION

As part of WSP's support to the Government of Cambodia to increase access to sanitation, especially among the poor, consultations with MFIs, NGOs, and other potential stakeholders were conducted to evaluate several sanitation financing options including savings groups, revolving funds, and latrine suppliers extending installment payments to their customers. While any of these approaches could be viable under the appropriate market conditions, the research concluded that savings groups relied too heavily on donor support and installment payments offered by latrine businesses were too complicated for businesses to manage. A household loan product offered through an MFI was determined the most scalable and sustainable approach in Cambodia. WSP

and partners (PATH and iDE) sought to partner with MFIs with established scale and penetration in rural areas, a commitment to serving poor Cambodians, and an interest in participating in a pilot. Through this process, VisionFund Cambodia in Kandal province (Jul 2012 – Mar 2013) and KREDIT in Prey Veng province (Nov 2012 – Jul 2013) were engaged in the pilot.

KREDIT was chosen in part because of its strong existing social loan² program targeted at the poor. As of 2011, KREDIT served over 56,500 clients. It had an operating self-sufficiency ratio of 123%, meaning that the organization's operating expenses were covered by their operational revenue. In addition, less than 0.33% of its loan payments were more than 30 days late.

VisionFund Cambodia was chosen partly because of its previous partnership with PATH, and also because it has a low average loan size and one of the largest outreach into rural areas among MFIs in Cambodia. As of 2011, it served more than 132,000 clients, had an operating self-sufficiency ratio of 119% and less than 0.14% of its loan payments were more than 30 days late.

Table 1: Key MFI Metrics

Metric	KREDIT	VisionFund
Number of Provinces	11	19
Active borrowers	56,519	132,036
Total Loans Outstanding (US\$)	44 million	38 million
Average Loan Size (US\$)	789	286

Source: MFI 2011 annual reports

The partnership was reflected in a scope of work outlining the roles and responsibilities of each stakeholder: the MFI and its credit officers, PATH and iDE, latrine businesses and latrine sales agents. Because the primary goal of the pilot was to learn what approaches would increase latrine uptake among the poor, the scope of work defined how project partners would provide assistance to the MFIs so they could test different approaches and document the results. For example, one MFI received a grant to help offset the cost of collecting data for the pilot. Another received a loan guarantee to enable reduction in collateral requirements to ensure sufficient loan demand.

¹ WSP, "Sanitation Marketing Lessons from Cambodia: A Market-Based Approach to Delivering Sanitation" Oct 2012.

² For the purposes of this paper, the term "social loan" means a loan designed to improve the living standards of the borrower.

KREDIT offered both group and individual loans to customers

KREDIT enabled villagers to decide whether they wanted to join a group or obtain an individual loan. Some villagers chose an individual loan because they did not want to find others to form a group or did not want to share default risk.

Under the community bank model, KREDIT offered loans to groups of 4-6 households and required at least two groups in order to establish a community bank. In three Prey Veng districts, group loans could be repaid locally. Group loan sizes ranged between US\$40 and US\$250 at an interest rate of 2.9% per month.³ The group of households shared default risk as a collateral substitute and the community (group of groups) shared the risk of losing access to future loans in the event of default. Many of the borrowers under this program were existing customers and several new customers took out follow-on loans, so risk of losing access to future loans was a serious consequence of default. KREDIT required a balloon repayment method for all group loans. Under a balloon repayment, the entire principal is not amortized over the life of the loan, leaving

a large balance at the end of the loan term that must be repaid in a lump sum. Balloon repayments are mostly popular with farmers or other households with seasonal income, as they can time the lump-sum payment with their income.

In a fourth district, KREDIT also offered loans to individuals between US\$40 and US\$250. Initially, individual loans were offered at an interest rate of 2.65% per month and individuals were required to travel to make payments at the MFI branch located in the district centers. The MFI also planned to require movable collateral (e.g., motorbikes, hand tractors, water pumps) but found this requirement difficult to implement. Thus, KREDIT ultimately decided to offer loans with no collateral to test if this would stimulate loan demand. To offset the increased risk, the MFI increased the interest rate on individual loans to 3%, and ultimately changed to allow repayment at the village level. KREDIT required a declining balance repayment method for all individual loans. Under a declining balance method, principal repayments are spread out over the duration of the loan and interest is only charged on the actual principal, rather than the initial amount borrowed.

Table 2: Summary of MFI sanitation loan offerings characteristics

Characteristic	KREDIT individual loans	KREDIT group loans	VisionFund Cambodia group loans
Basic Structure	1 household, 1 district	3-6 households, 3 districts	From 2 to numerous households, all districts
Collateral	No collateral requirement	Each group shares default risk and group of groups shares risk of access to future loan opportunities	Each group shares default risk
Repayment Location	Initially MFI branch office; changed to village based on demand through a village “teller” collecting payments	Village	Village
Size	US\$40-US\$250 (Loans disbursed in KHR)	US\$40-US\$250 (Loans disbursed in KHR)	US\$40-US\$350 (loans disbursed in KHR)
Duration	6-12 months (borrower choice)	6-12 months (borrower choice)	4-12 months (borrower choice)
Repayment Method	Declining balance method	Balloon method	Declining balance or balloon method (customer choice)
Interest Rate	2.65-3% per month	2.9% per month	2.6-2.8% per month

³ All loans were disbursed in KHR during the pilot, but have been converted to US\$ for this Learning Note at a rate of 4,000 KHR to US\$1.

VisionFund Cambodia offered group loans through a community bank model

In VisionFund Cambodia's community bank repayment method, the MFI offered group loans with a 2.6-2.8% interest rate per month. VisionFund Cambodia charged 2.6% for loans funded through Kiva⁴ and 2.8% for loans funded by other sources. Groups of households shared the risk of default. Customers could choose loan terms of 4-12 months as well as whether to use a declining balance or balloon payment method. Ninety per cent of customers chose to use the declining balance repayment method, underscoring the popularity of that payment method.

Figure 1: Sanitation Loan Implementation Process



Latrines sold and distributed directly to groups and individuals

Latrines (excluding the shelter) were sourced from independent latrine businesses, which hired commission-based sales agents responsible for selling latrines to groups of households within a given area. MFI field loan officers also attended these meetings to offer households the option to purchase latrines on credit. Sales orders and loan applications were completed at the end of these sales meetings (see Figure 1). Once the

loan applications were approved, the latrine businesses, in the ideal scenario where the business was ready to deliver, distributed the latrines to households within a few days. Following confirmation that the latrines had been received, the MFIs disbursed loan payments to the latrine businesses once per week. In order to make this process work smoothly, PATH field staff provided considerable coordination support.

It should be noted that some households might not immediately install the complete latrine after the purchase of the basic substructure. Monitoring data suggest that within 6-12 months around three quarters of all households have installed their toilet. In the pilot, there was no specific data collected on installation rates and shelter types for households that took up a sanitation loan.

LESSONS LEARNED

Lesson 1: There is demand for latrines even among poor households. A sanitation loan program helps to increase uptake among the poor.

Because many households, especially those with lower income levels, cite an inability to pay the up-front costs of a latrine as a major barrier to accessing improved sanitation, purchasing a latrine on credit may help increase sanitation uptake rates.

For VisionFund Cambodia, the sanitation loans reached three times more poor households than their normal loans.⁵ For KREDIT, the proportion of the sanitation loan taken up by poor households has been proportionate to poor population in the province.⁶ In other words, the loan pilot was poor-inclusive and better able to serve the poorer segments of the communities than their traditional loans. As most of the loans issued were group loans not requiring collateral, this mechanism proved to be generally poor-inclusive.

The findings of the pilot are consistent with research showing that latrine uptake rates increased fourfold among poor households comparing cash on delivery and six-month spread payments.⁷

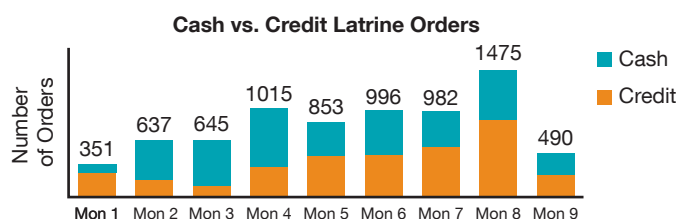
⁴ Kiva is a non-profit organization that through leveraging the internet provides no-interest funds to its worldwide network of microfinance institutions. For more information see www.kiva.org.

⁵ This is based on PPI USAID poverty tool which is used by VisionFund Cambodia to assess its borrowers. From all VF sanitation loans, 53% were disbursed to households living on PPI USAID Poverty Line, and 21% to those living under the PPI USAID Extreme Poverty Line. See also <http://www.progressoutofpoverty.org>.

⁶ For KREDIT, 32% of all sanitation loans were disbursed to poor households, as compared to an overall average of 27% poor households in the province. Poor households are defined as ID-poor category I and category II as per the official poverty identification system of the Cambodian government. See also <http://www.mop.gov.kh>.

⁷ IDinsight, "Microfinance Loans to Increase Sanitary Latrine Sales," Policy Brief, June 2013.

Figure 2: Cash vs. Credit Latrine Orders in Prey Veng and Kandal Provinces



During the first half of the pilot, latrine cash orders exceeded latrine credit orders. However, as households became more comfortable with the idea of paying for a latrine with a loan, credit orders increased significantly (Figure 2).

Lesson 2: Dedicated loan officers can streamline and expedite the loan process.

Households faced long delays while waiting for loan approvals, especially during the initial months of the pilot. Interviews with latrine producers and sales agents found that dedicated loan officers reduced the time households spent waiting, sometimes by as much as three weeks, thereby increasing loan volume and interest revenue for MFIs. Sales agents and latrine businesses expressed that they rely on strong relationships with the loan officer for their own sales and revenue. As such, dedicated loan officers can make a sanitation loan program more attractive for latrine businesses as well, improving the effectiveness of the program so long as latrine businesses are capable and ready to deliver latrines.

Interviews with sales agents indicate that customers are most motivated to buy a latrine after a group sales meeting, especially when they learn they can purchase the latrine on credit. Because rural poor households have many competing demands on their time and resources, this motivation can dissipate after a delay, reportedly often leading to a cancellation of a purchase. Thus, dedicated loan officers who process loans immediately after a sales meeting can have a significant impact on loan volume and interest revenue by minimizing delays. However, it is difficult for MFIs to support dedicated credit officers for a small loan program like this without additional support from development partners. Therefore, the additional benefit of a dedicated credit officer needs to be weighed against the costs of human resources for MFIs.

Lesson 3: Reducing loan processing times can increase sanitation uptake and may require removing regulatory barriers for loan approvals.

Giving loan officers the authority to approve loans immediately is another way to reduce loan processing times. However, the Credit Bureau of Cambodia (CBC) requires a credit check for any loan. This step adds a delay to loan processing times, as credit checks can only be completed in an MFI's district branch offices. It also increases an MFI's operational costs as bank staff must travel between villages and offices to process credit check information. Furthermore, the CBC charges MFIs a US\$0.18 fee for each credit check for a loan under US\$500. For VisionFund Cambodia, the CBC credit check requirement added another layer of complexity as its loan approval procedure already required district branch managers to travel to the field to verify each household's loan application.⁸

Obtaining a waiver for credit checks on small loans under a reasonable threshold (e.g., US\$50, US\$100) can facilitate faster loan processing, reduce the delay between the household's decision to purchase a latrine and its delivery, and ultimately increase sanitation uptake rates.

Development partners and governments can support MFIs in developing strategies to overcome regulatory costs or burdens like the CBC credit check requirement.

Lesson 4: Households may be willing to pay a slightly higher interest rate in exchange for a closer and more convenient payment location.

In the initial KREDIT individual loan design, borrowers were required to make repayments at district branches. However, very few people were willing or able to travel to the district capital (sometimes 25 km away) to do so. Thus, in April 2013, the KREDIT individual loan model was modified to a community bank model, where field "tellers" collected loan repayments in each village. As a result, individual loan demand increased, even though interest rates increased as well from 2.65% to 3% per month. In fact, demand increased to such an extent that credit officers could no longer process loan applications in a timely manner.

⁸ KREDIT's operational procedure did not require an approval visit by the branch manager. KREDIT loans would be approved by the loan officer in the field, with the caveat that customers pass the CBC credit check that would be done afterwards in the district branch. Hence, for KREDIT the CBC credit check was less of an obstacle and not subject to a waiver in the pilot.

Lesson 5: A close partnership between an MFI and a latrine business that has the motivation and capability to produce and deliver on time is needed to maximize commitments from customers and avoid losing orders.

Selecting business partners with the desire and capability to deliver latrine products effectively is an important part of setting up a successful sanitation loan program. Ineffective business practices can be a risk to a loan program. For example, during the pilot, some sales agents offered latrines on credit to households that had not been approved as creditworthy by credit officers, leading to processing delays, lost or canceled orders, and general household frustration with the process. Additionally, because delivery is largely a fixed cost, a latrine business may wait to deliver latrines until volume has increased, maximizing the use of a single delivery trip. However, late delivery of latrines by a latrine business may cause households that have decided to purchase a latrine with cash to abandon the purchase decision. This is especially true during the initial months of a sanitation loan program, when latrine order and delivery volume is low.

In the pilot, the selection of the best latrine businesses was guided by i) the frequency of interaction between businesses and sales agents, ii) the level of investment in production equipment, and iii) the training/coaching businesses would have received.

In the future, MFIs may consider developing detailed scopes of work with their business partners, drawing on learnings from the pilot to establish clear expectations of roles and responsibilities. For example, MFIs may be able to align their incentives with those of latrine businesses by providing working capital loans to business owners who seek them.⁹ MFIs may also benefit from technical assistance from an external support organization that has experience in a sanitation loan program to understand the capabilities and constraints of potential latrine business partners. These might include ability to access capital necessary to produce latrines and the ability to deliver latrines on time.

Lesson 6: A poor-inclusive sanitation loan program has a relatively low risk profile and can be financially viable and sustainable given the right support. It can help socially-oriented MFIs widen their customer bases and achieve their missions.

Neither MFI experienced loan defaults nor delinquent payments over 30 days. Default rates under this pilot were lower than those for KREDIT and VisionFund Cambodia's other loan portfolios. This could be because of the relatively low risk profile of small sanitation loans, and maybe also due to the methods used by MFIs to manage the loans. Both MFIs followed up promptly with households who were late on their payments. This may have reduced the rate of portfolio at risk.

By the end of the pilot, both MFIs achieved loan self-sufficiency ratios greater than 100%, indicating that costs of offering sanitation loans can be covered by the loan interest revenue. Loan performance data indicate MFIs go through a learning curve in which loan self-sufficiency rates improve over time (Figure 3). Pilot data seem to suggest that MFIs with previous experience implementing and scaling up social loans may reach loan-self-sufficiency faster than those without.

Similarly, average acquisition cost per loan, or the direct costs of sales meetings and the loan application and approval process, decreased and stabilized after peaking in the third month of the pilot. This indicates MFIs learned how to acquire loans more efficiently during the pilot (see Figure 4).

Generally, larger loan sizes were associated with greater revenue. MFI 1 provided a larger average loan size than MFI 2 (US\$70 vs. US\$55, respectively). The average revenue per loan for MFI 1 was US\$5.53 compared with US\$4.89 in MFI 2.

Plateaus in loan self-sufficiency ratios, like that shown during months 4 and 5 in Figure 3 are explained by increases in sales meetings (at greater cost) before greater latrine sales and revenue was realized. Both MFIs disbursed a greater number of loans each month until the final month of the pilot, which saw a tapering off (see Figure 5).

Table 3: MFI Total Revenue and Average Loan Size

Model	Total # of loans	Average loan size (principal)	Total interest revenue
MFI 1	1,053	US\$70.60 ¹⁰	US\$5,822
MFI 2	941	US\$55.03	US\$4,606

⁹ Loans to latrine businesses were not processed under this pilot as they either did not need them or were not motivated enough to seek loans.

¹⁰ For reasons of confidentiality, the names of the MFIs are not disclosed when discussing business performance.

Figure 3: Average Weighted Loan Self Sufficiency Ratio for two MFIs

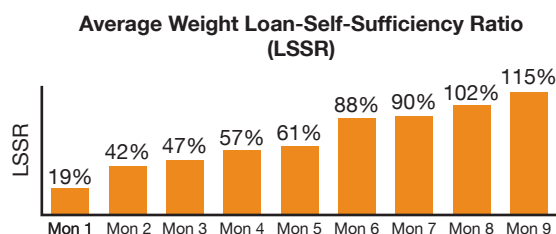


Figure 4: Average Acquisition Cost per Loan for two MFIs

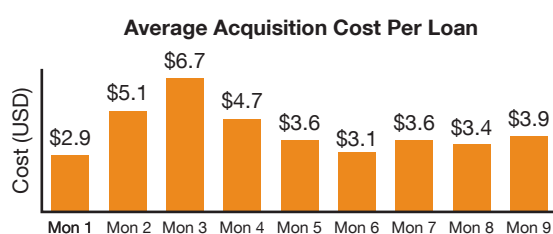
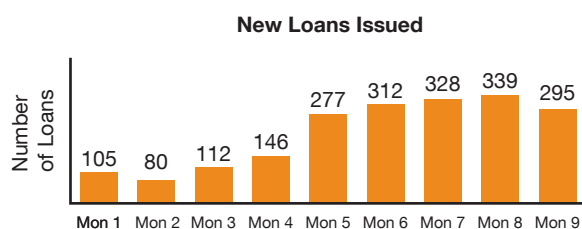


Figure 5: Total New Loans Issued by two MFIs



Both MFIs allowed existing and new clients to take out loans under the sanitation loan pilot, with each MFI waiving prohibitions against clients maintaining more than one loan at a time as long as one of the loans was for sanitation. The MFIs reasoned that sanitation loans were small, so they did not pose the same over-indebtedness risk to borrowers. Existing clients made up only around 25% of each MFI's total loan portfolio.

Allowing new clients increases risk somewhat, but enables MFIs to broaden their customer base. VisionFund Cambodia and KREDIT were both able to convert about 15% of new clients to larger, income-producing loans by the end of the pilot. Though 15% retention rates are not considered very high by MFI standards, both MFIs were able to realize new revenue as a result of retaining clients. During the pilot period, the MFIs participating in the sanitation pilot were able to disburse approximately US\$55,000 in 195 follow-on loans to new clients.

WHAT ELSE WE NEED TO KNOW

In addition to the lessons learned from this pilot, MFIs in partnership with other actors may wish to test further innovations in offering a sanitation loan program to better understand the impact on sanitation uptake on rural households.

Are MFIs willing and interested in sustaining and scaling-up a sanitation loan program without continuous external support?

Behind the success of the pilot is the continuous support provided to the MFIs offering the sanitation loan product to rural consumers. This support, either in terms of risk sharing or a small grant, has been essential for the MFI to cope with emerging risks and to help them go through the learning curve while introducing the latrine loan in their lending portfolio. More learning is needed on the type and intensity of support that MFIs consequently need to sustain and scale up to ultimately achieve a situation where the product is fully integrated in their operations without external support.

Should sanitation loan products also cover the cost of latrine shelters?

Many Cambodian households do not view a latrine as complete without a concrete water basin and a surrounding shelter. However, a latrine with this form of infrastructure costs between US\$200 and US\$300, over four times the size of the average sanitation loan provided under the pilot.

A larger loan that could cover the cost of concrete water basins and latrine shelters would likely increase improved sanitation uptake while contributing to higher MFI sales and interest revenue. This hypothesis could be tested while introducing lower-cost complete toilet options and the option of loan repayment, particularly amongst the poorest households.

To what extent were the poorest households excluded from and affected by the sanitation loan program?

Though the pilot sanitation loan programs increased sanitation access among the poor, qualitative research suggests some of the poorest households were excluded from group loans because these households were perceived as unable to repay the loan. More information is needed to determine the extent to which poor households were excluded from groups and the extent to which taking up a sanitation loan affects the trade-

off in household spending patterns, as the poor may not spend on other basic needs while paying off the loan. Such understanding will help identify other measures that can help them gain access to sanitation more effectively (e.g., savings, subsidies, loan guarantees). A complete toilet with shelter is a direction that may increase uptake of sanitation by households, and increase viability of sanitation loan programs. However, it will remain important to communicate behavior change messages to poor households to reinforce the social norm for stopping open defecation and position a toilet with a natural shelter as providing the benefits (such as privacy, convenience and no more shame) that households seek.

Figure 6: While organic shelters are less desired than concrete alternatives, they are more affordable



CONCLUSION

Though many rural Cambodian households lack improved sanitation, there is considerable demand for latrines, especially when offered on credit. Small loans issued by MFIs to either individuals or groups of households can be a viable way to increase uptake of improved sanitation in rural areas, including among the poor. If such a program is planned, tested, and scaled up carefully, MFIs with good lender practices could reasonably expect low default rates and high loan self-sufficiency, while supporting their social mission.

Sanitation loan programs are likely to be viable in other countries, though each area's local context should be taken into consideration when structuring any replication of loan programs. For example, in certain contexts, a strong local government could be a key partner and support sanitation uptake by offering loan guarantees or subsidies to enable poor households to pay for sanitation. Development partners can play a role in supporting sanitation loan programs by sharing lessons learned in the form of pilots and innovations, and resources such as the WASH microfinance toolkits created by Water.org and Micro-Save.¹¹ Development partners can also support MFIs in testing other innovative new lending approaches (e.g., though mobile banking) to understand the impact that has on sanitation uptake.

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About the project

In 2012-13, the World Bank's Water and Sanitation Program (WSP) worked with the Program for Appropriate Technology in Health (PATH), International Development Enterprises (iDE), VisionFund Cambodia and KREDIT to test a sanitation financing program in Cambodia. The goal was to see how microcredit could be used to help rural households obtain durable sanitation technologies and thus provide tangible health and quality-of-life benefits.

PATH acted as the project facilitator. During the pilot phase, funds were provided to cover the additional operational costs each MFI incurred in running the pilot program, but not the actual loans themselves.

Contact us

For more information please email wspeap@worldbank.org or visit www.wsp.org

¹¹ See for details http://www.microsave.net/resource/water_sanitation_and_hygiene_microfinance_toolkits.